

**INTERTEK LABORATORIES, INC.*****STANDARD PURCHASE ORDER QUALITY CONTROL ATTACHMENT***

The requirements of these clauses, and any procedures or reports executed in implementation therefore, with their terms and conditions become a integrate part the Purchase Order to the extent specified in the Purchase Order. These requirements supplement but do not supersede the presently existing Purchase Order Terms and conditions. Compliance with the requirements of these clauses does not relieve the seller of his responsibility for furnishing material and services which fully comply with applicable Drawings and Specifications Requirements nor does it guarantee acceptance of material and services by Intertek Labs.

Applicable clauses are designated on the Intertek Purchase Order by applicable clause number. All reports, test data and/or objective evidence shall be sent to Intertek Attn: QA Department, unless otherwise specified on the Purchase Order.

Procurement QA Clause**QAC-001 Surveillance**

- Seller must allow the Intertek representative and/or Intertek's customer representative access to his facility. Access to any areas which involve proprietary processes or intellectual property will require an agreed to arrangement between the Buyer and the Seller.
- The US Government has the right to inspect, at any reasonable time, any or all of the work performed on US Government contracts.

QAC-002 Non-Conforming Materials

- Seller shall maintain an effective and positive system for controlling NCM, including procedures for the identification, documentation, evaluation, segregation, and disposition of NCM. If at any time, the Seller suspects or determines nonconforming material or may have been shipped to the Intertek, the Seller agrees to notify the Intertek within 48-hours of identification.
- Seller's Material Review Authority shall not extend to "Repair" or "Use-As-Is" dispositions for supplier published characteristics or Intertek specified requirements. Rework of nonconforming supplier published characteristics or Buyer-specified requirements shall be in accordance documented procedures and shall require re-inspection prior to shipment.
- "Repair" is defined as the reprocessing of a nonconforming Buyer-specified characteristic to reduce, but not completely eliminate, the nonconformance. The purpose of a repair is to bring the nonconforming characteristic(s) into an acceptable usable condition. "Rework" is defined as the reprocessing to make a nonconforming characteristic completely conform to the drawing, specification, or PO requirements. "Repair" is distinguished from "Rework" in that the item after repair still does not completely conform to the applicable drawing, specification, or PO requirements.
- The Seller shall not ship, nor will the Intertek accept, nonconforming or repaired items, unless authorized in writing, in advance, by Intertek. Intertek approved nonconforming or repaired items shall be identified on the applicable Certification provided with the shipment.
- "Scrap" shall be adequately controlled and positively identified to prevent inadvertent re-entry into the Seller's process or supply chain.

**QAC-003 Corrective Action**

- When requested, Supplier is obligated to perform a Root Cause/Corrective Action investigation for non-conforming material detected at Intertek and to furnish a written response within 15 days

QAC-004 Failure Analysis / Corrective Action Reporting

Prior to proceeding with repair, the supplier shall provide Intertek with a written failure analysis and corrective action report which details:

- Intertek part number, name and revision
- Intertek Purchase Order number
- Supplier part number (if applicable)
- Serial number(s) (if applicable)
- Root Cause(s)
- List of parts required to repair item(s);
- Quoted Cost to complete the repair;
- Specific and contributory causes of failure;
- Corrective action taken to preclude recurrence and effectivity by date or serial number of corrective action;
- Signature and title of Supplier's Quality Representative approving the failure analysis report.

All replaced material shall be identified as Intertek property and controlled until notice of disposition.

QAC-005 Revision of Specifications

- Supplier shall build to the revision listed on the Purchase Order.
- Part substitution shall not be allowed. The exact part number as identified on the Purchase Order (MIL-Spec or Supplier Part Number), or the exact part number identified in the purchase item drawing shall be provided.

QAC-006 Government Source Inspection

- Government Source Inspection (GSI) is required prior to shipment of product from your plant
- Immediately notify government representative that GSI has been invoked, upon receipt of the order
- In the event that the government office or representative cannot be located, the Intertek must be notified, immediately
- Evidence of GSI must accompany each shipment

QAC-007 Intertek Source Inspection

- Intertek Source Inspection is required prior to shipment of product from your plant
- The Source Inspection(SI) performed may include witnessing of Final Acceptance Testing, Final Acceptance Inspection and/or review of supporting in-process records
- Notify the Intertek seven (7) days in advance of items ready for source inspection

**QAC-008 Quality System Requirements**

The supplier's Quality Management System, at a minimum, shall address the following ISO family requirements:

1. A current, documented Quality System Manual shall be in place
2. Control of Documents
3. Control of Records
4. Management Review
5. Competence, Training and Awareness
6. Sub-Contractor/Supplier Certification and Management
7. Control of Monitoring and Measuring Equipment
8. Monitoring and Measurement of Customer Satisfaction
9. Internal Audits
10. Monitoring and Measurement of Quality Management System Processes
11. Monitoring and Measurement of Product
12. Control of Non-conforming Product
13. Continual Improvement, Corrective Action, and Preventive Action

QAC-009 Flow-down

If the supplier uses facilities other than their own, that facility is subject to and shall adhere to the same conditions of the Intertek Purchase Order. All certifications submitted, as objective evidence must indicate the name and location(s) of the facility providing the service/material.

Objective evidence of all inspection/ tests used to verify or demonstrate compliance with applicable specifications must be available for review and retained as specified in the [Federal Acquisition Regulation \(FAR\), section 4.703](#), unless specified differently in the Intertek contract.

Intertek reserves the right to require failure analysis on any or all failures that may occur that are associated with the item(s) delivered on this P.O.

Seller shall flow down the applicable clauses of this document to sub-tier suppliers for this PO.

QAC-010 Qualification Testing

Qualification tests shall be performed on the first system produced by a supplier who has not previously completed Qualification Testing.

- The tests shall consist of all required testing conducted in accordance with the applicable item specification.
- The supplier shall provide Intertek with a reproducible, signed copy of a Qualification report documenting all test results and certifications as required in the item specification.
- The design Qualification test shall be performed on a unit as nearly identical as possible in design to units produced through the remainder of the contract.

**QAC-011 Test Data**

Supplier to provide results of all final acceptance tests performed to determine acceptability of each part delivered.

Test data should include:

- Intertek part number and revision
- Intertek Purchase Order number
- Supplier part number (if applicable)
- Date of test(s) performed
- Serial number(s)
- Identity of person that performed the test
- Acceptance criteria used
- Results of tests performed
- Supporting documentation.

QAC-012 Dimensional Inspection Data

Supplier to provide results of inspection performed to determine acceptability of each part delivered. NOTE: A Certificate of Conformance does not satisfy the requirements of this code.

Inspection results should include:

- Intertek part number and revision
- Intertek Purchase Order number
- Supplier part number (if applicable)
- Date of test(s) performed
- Serial number(s)
- Identity of person that performed the inspection(s)
- AQL used for each requirement
- Acceptance criteria used
- Results of inspection(s) performed

QAC-013 First Article Inspection/Test

First Article Acceptance is required for the part number supplied.

The supplier shall submit a reproducible, signed copy of a First Article Report stating recorded inspection and test variable data for all characteristics, requirements and parameters. The Supplier shall record all measurable characteristics (i.e. drawing dimension, tolerance, measured dimension, electrical tests, etc.), including a verification of drawing notes. This report shall document acceptance of each measurable characteristic. The supplier shall also provide applicable raw material and special process certifications.

Once a First Article Report has been supplied for the part number, the requirement for First Article Inspection has been satisfied for future purchases of this part number, unless:

- The part is purchased from a new supplier
- There has been a break in production of greater than two (2) years
- The physical location of the production processes has changed.

**QAC-014 Acceptance Test Procedures**

Supplier to submit a copy of their acceptance test procedure thirty (30) days, prior to use, for Intertek QA approval.

- Procedure should include data sheets for recording all results,
- Procedure shall identify all test equipment to be used for acceptance.
- Procedure to include calibration data sheet listing equipment used, calibration date and expiration date.

Once Acceptance Test Procedure has been approved for the part number, the requirement for ATP has been satisfied for future purchases of this part number, unless a revision change is made to the documentation. Supplier is obligated to notify Intertek of any changes made to the approved ATP.

QAC-015 Material Process Control

The supplier shall have on file at their facility or at their supplier's facility inspection reports per the applicable specification for the materials shipped under this order.

- This is to certify that all items noted are in conformance with the contract, drawings, specification and other applicable documentation that all process certifications, chemical and physical test reports, are on file at your facility or your supplier's facility and are available for review by Intertek.

QAC-016 Mercury Exclusion

Each shipment of supplies furnished for this Order shall contain no metallic mercury or mercury compounds. The supplier shall take reasonable steps to be sure that mercury contamination does not occur during the manufacturing process, testing or inspection.

QAC-017 Limited-Life Items.

- Supplier to identify manufacture/cure date and expiration date on each item in shipment.
- Shelf life must exceed 75% of total shelf life at time of receipt at Intertek.

QAC-018 Hazardous Material

The vendor is to supply, with order, Safety Data Sheets. These sheets will detail all potential hazards involved with using and handling this product, including storage and disposal. The Safety Data Sheets will detail methods of safely using this product.

QAC-019 Records of Heat Treatment

- Supplier to provide oven heat treat charts and data reports.
- Test reports must have a Quality representative's signature, title and date.

Heat treat must be performed in accordance with procurement specification documents referenced on the Purchase Order.

**QAC-020 Material Traceability**

- Components (Electrical, Electronic, and Mechanical). All components used on this PO shall be traceable to the original manufacturer's lot or date codes and supporting approval documentation (e.g., PO's & certificates of conformance). This also applies to test data and reports, as specified in the applicable PO, contract or specification. The Seller shall be able to trace these components to all delivered items.
- General. The Seller shall establish and maintain a system for documenting the history of item from receipt of raw material through all stages of manufacture, inspection, test and shipment by such means as a lot number, date code, or serial number control. The means used shall relate the item to the particular lot of raw material, manufacturing process, specification, drawing, heat number, cure date, etc., to provide a complete history traceable to Seller's records and data. Seller shall furnish the lot, date code, serial number or other traceable identification with each shipment.

QAC-021 Special Process Control

Special Processes are those that produce part features that require destructive testing to verify conformity.

- Suppliers engaged in special processes (example: soldering, brazing, welding, etching, plating, casting, heat treating) shall have in place procedures to support special processes. Supplier must have approved methods on file supporting acceptance of special processes (example: magnetic particle inspection, dye penetrant inspection, radiographic inspection).
- Test results and process certifications are on file at your facility or your supplier's facility and are available for review by Intertek.
- Supplier shall maintain a control system for all special process sub-tier suppliers ensuring all processes are documented and controlled.
- Supplier shall ensure that all personnel performing such processes as welding, soldering and Non-destructive Evaluation or Testing are certified in accordance with the specifications contained on the drawings and purchase orders. Supplier shall also ensure the associated equipment used is certified as appropriate.

QAC-022 Records of Material Properties

- Supplier shall provide original mill chemical/physical test reports.
- Reports must comply with and identify the material specification listed on the Purchase Order.
- Reports must be reviewed and approved by Supplier's Quality representative.

All reports must have Quality Rep's signature, title and date of the approval.

QAC-023 Test Specimen

- Supplier shall submit with this shipment test specimens specific to the process being performed.
- All specimens, whether weldment pieces, test bars, optical coatings or painted finishes shall be in accordance with procurement specifications, drawings and/or documents referenced in the purchase order.
- Supplier shall submit test data/test reports identifying material and/or requirements.

**QAC-024 Serial Numbers**

- Supplier shall assign individual serial numbers to each item shipped under this order.
- Duplication of serial numbers shall not be allowed.
- Serial numbers will be applied in accordance with drawing and/or specification.
- All supplier data shall be identified by serial number.

QAC-025 Lot Control

Supplier shall assign a lot control number to each manufactured lot under this order.

- Lot consists of a quantity of items manufactured during an uninterrupted period.

QAC-026 Certificate Of Conformance

A certificate of conformance shall be supplied with each shipment of material supplied against this Purchase Order. The certificate shall certify that the material meets all applicable Intertek specification requirements or military/industrial specification requirements. Certification should contain the following:

- Intertek part number and revision
- Intertek Purchase Order number
- Supplier part number (if applicable)
- Serial number(s) (if applicable)
- Supplier's QA rep. approval with typed name, signature, title and date.

Supplier shall perform inspection, as necessary, to determine the acceptability of all articles under this Order. The applicable material test results, process certifications and inspection records shall be available upon Intertek request.

QAC-027 Calibration Services

- Vendor's inspection, measuring, and test equipment services shall have a calibration system in compliance with the requirements of MIL-STD-45662A, ISO 10012, ANSI/NCSL Z540, or ISO17025.
- Calibration procedures shall be maintained which provide sufficient information for periodic calibration of equipment. Calibrations shall be per the original equipment manufacturers specifications or of greater accuracy.
- Software programs, scripts, stored memory data, or the like, shall be left in the "as-received" state, and any additions, deletions, or changes from this "as-received" state requires the prior written authorization from Intertek.
- At Intertek's sole discretion, the vendor may be held liable for any such unauthorized changes.
- Vendor shall be solely responsible for returning items in the same condition (or better in the case of a repair) as originally provided by Intertek at no increase in price, cost, or fee to Intertek, including, but is not limited to, the physical and operating condition of the item, inclusive of software programs, scripts, or the like that may be contained therein.
- Calibrated devices will be identified with a calibration sticker that includes the current calibration status, calibration due date, device identification number and initials of person performing the calibration.

**QAC-028 Certificate of Calibration**

- For equipment calibrated by third party laboratories, these shall be returned with a certificate of calibration showing the status of the calibration, as well as the condition the equipment was found in and as left (e.g., “defective,” “out of tolerance”, “in tolerance”, etc.), temperature and humidity conditions during calibration.
- Such certificates must also have the identification of any standards used by the calibration house, and their serial numbers, allowing for traceability to NIST.

QAC-029 Electrostatic Discharge (ESD) Protection

Components and assemblies, which are susceptible to electrostatic discharge damage, shall be handled and packaged to prevent ESD damage utilizing MIL-STD-1686, ANSI/ESD S20.20, or EIA/JEDEC JESD625 as a guideline or Intertek acceptable equivalent. ESD protective containers shall be marked as containing ESD sensitive devices.

QAC-030 Certificate Of Conformance from QPL Approved Manufacturer

Material used for this order must be provided from a supplier on the Government's Published QPL.

- A certificate of conformance from the manufacturer shall be supplied with each shipment of material supplied against this Purchase Order.

The certificate shall be signed and dated by the responsible manufacturer representative and shall certify that the material meets all applicable specification requirements or military/industrial specification requirements.

QAC-031 Changes

- Seller shall not make any changes in (i) material(s), (ii) design, (iii) manufacturing source(s), (iv) process(es), (v) tooling, (vi) equipment, (vii) equipment/tooling/product software, etc. which can potentially affect the fit, form, function, reliability, safety, or maintainability of the item or services on this PO without the prior notification (within 48-hours of the event) and approval of Intertek.
- Additionally, Seller shall notify Intertek of (i) any changes in its quality management representative or quality leadership, (ii) any adverse changes to Seller's quality system or product accreditations/approvals (e.g., expired, withdrawn, suspended, downgraded) or stature, (iii) any certification body or regulatory agency findings/nonconformances classified as “Major”, “Significant” or similar, (iv) any changes of senior management, (v) any changes in company ownership, (vi) any significant manufacturing / production infrastructure changes, including expansions, contractions, and relocations, and (vii) the curtailment/discontinuance of manufacturing operations or product/services not being continuously available for purchase.
- Execution of order in advance of Buyer approval shall be at the Seller's sole risk.

**QAC-032 Covered Telecommunications**

Covered Telecommunications Equipment or Services-Representation. Section 889(a)(1)(A) and section 889 (a)(1)(B) of Public Law 115-232 applies to this order and shall be flowed down to all sub-tier suppliers.

1. The Offeror shall review the list of excluded parties in the System for Award Management (<https://www.sam.gov>) for entities (i.e. Huawei Technologies Company, ZTE Corporation, etc.) excluded from receiving federal awards for “covered telecommunications equipment or services”.
2. The Offeror hereby represents that:
 - a. It does not provide covered telecommunication equipment or services as a part of its offered products or services to Intertek in performance of any contract, subcontract, or other contractual instrument.
 - b. After conducting a reasonable inquiry for purposes of the representation, that it does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services.

QAC-033 Suspect Counterfeit/Counterfeit/Substandard/Unapproved Parts/Items

Only new and authentic materials shall be used in products delivered to Intertek. No Suspect Counterfeit/Counterfeit/Substandard/Unapproved Parts/Items (hereinafter may collectively be only referred to as either Suspect Counterfeit Parts/Items, Counterfeit Parts/Items, Substandard Parts/Items, and/or Unapproved Parts/Items; and the terms parts and items shall be interpreted as being synonymous and interchangeable) shall be contained within the delivered item.

All items shall be guaranteed to meet the original manufacturer’s or government/industry/regulatory/statutory full specifications, inclusive of being authorized or qualified (e.g., listed on the Qualified Product List (QPL), Qualified Manufacturer List (QML), Intertek drawing/specification, or possessing Federal Aviation Authority (FAA) Parts Manufacturer Approval (PMA) or Technical Standard Order Authorization (TSOA), etc.) to manufacture or provide such item(s), when required. Fasteners shall be compliant to the Fastener Quality Act (FQA), Public Law 101-592 and successor amendments.

If Suspect Counterfeit/Counterfeit/Substandard/Unapproved Parts/Items are furnished under this PO and are found in any of the goods delivered hereunder, such items will be impounded by Intertek. The Seller shall promptly replace such with items acceptable to Intertek, and the Seller shall be liable for all costs relating to the removal and replacement of said items as specified in the purchase order requirements or Seller’s insurance policies. Intertek reserves all contractual rights and remedies to address grievances and detrimental impacts caused by suspect/counterfeit parts and may, at Intertek’s sole discretion, report such to law enforcement agencies, and/or third-party monitoring or reporting entities.

All occurrences of Suspect Counterfeit and/or Counterfeit Parts/Items encountered by Seller or Seller’s subtiers in fulfillment of the Order shall be immediately reported in writing (within 1 business day) by Seller to Intertek. All occurrences of Suspect Counterfeit and/or Counterfeit Parts/Items encountered by Seller or Seller’s subtiers, exclusive of items provided by Intertek (e.g., cosigned items), shall be reported by Seller (or applicable subtier) in a timely manner to both the Electronics Resellers Association International (ERAI) at www.eraí.com and the Government-Industry Data Exchange Program (GIDEP) at www.gidep.org. Objective evidence of report submissions to ERAI and GIDEP shall be provided by Seller (or applicable subtier) to Intertek, upon request, at no increase in price, cost, or fee to Intertek.

QAC-034 Franchised (Authorized) Distributors of Connectors and Active and Passive Components

- Seller warrants that OCM/OEM authorizing franchise documentation covering the specific connector, or active or passive electronic component being provided by Seller to Intertek is on file at Seller, and is available within 1 business day to Intertek upon Intertek's request, at no increase in price, cost or fee to Intertek.
- Seller shall contact Intertek in the event that the original OEM/OCM C of C and unbroken traceability documentation to the OEM/OCM is not available.
- Certification and traceability requirements shall be included with each shipment as specified herein.

QAC-035 Independent (Broker or Non-Franchised) Distributors of Connectors and Active and Passive Components

All inspecting and testing shall be performed to the original manufacturer's specifications and parameters. Recorded evidence of all testing performed shall be included with each shipment.

Component Type		Required Inspection / Testing	
Actives	Passives & Connectors	Lot Sample Size*	Inspection/Test
Required	Required	100%	Visual Microscopy Inspection of all parts in the order under 10X minimum magnification
Required	Not Required	100%	X-Ray Inspection
Not Required	Required	100%	X-Ray inspection for non-glass diodes and tantalum capacitors only
Required	Required	2	XRF/RoHS (2 parts per lot date code)
Required	Required	2	Resistance to Solvents testing
Required	Required	2	Heated Solvent Testing (Dynasolve Immersion)
Required	Required	2	Scrape Testing
Required	Required	2	Solderability Testing per IPC/EIA J-STD-002
Required	Not Required	2	De-Lid, Die Penetrate, Die Verification
Required	Required	1	Scanning Electron Microscopy
Not Required	Required	1% AQL, Level II	Applicable electrical testing (resistance, capacitance, continuity)

All samples to be used in inspection/testing shall be taken at random from the homogenous lot (i.e., same OCM/OEM, same part number, and same OCM/OEM date code/lot number) of material that will be delivered. Lot acceptance shall be based on $A_c = 0$; $R_e = 1$.

**QAC-036 Export / Import Control**

Intertek requires that the Seller maintains full compliance with the U.S. Government export/import laws and regulations including the U.S. Department of State, Directorate of Defense Trade Controls (DDTC), International Traffic in Arms Regulations (ITAR) and the U.S. Department of Commerce, Bureau of Industry and Security (BIS), Export Administration Regulations (EAR) throughout the entire fulfillment period of this PO, as may be applicable.

The Seller shall be solely responsible, and shall release, indemnify, and hold harmless (which for purposes of this requirement shall include, without limitation, Intertek's officers, employees, and agents) from and against any and all claims, demands, losses, damages, defense costs, or liability of any kind, which may arise out of, or are in any manner connected with the protection of any controlled technical data or defense articles provided to Seller by Intertek to assist in the manufacture of a defense article or provision of a defense service.

The release of this data by the Seller to a Foreign Person employee or its transfer to another Foreign Person for the purpose of Off-Shore Procurement is defined as an export (ITAR 22 CFR Parts 120.17 and 124.13 and EAR 15 CFR Part 734.2(b) (2) (ii) and Supplements 1 and 2 or Part 774) and shall be subject to the licensing requirements of the ITAR and EAR, as applicable.

Seller shall not deliver product directly to Intertek via international drop shipment without Intertek's prior written approval.

QAC-037 Customer-Furnished Material (CFM).

When furnished by Intertek or Intertek's customer, the Seller shall (i) verify quantity and inspect upon receipt, (ii) functionally test/verify prior to and/or following unit installation as required by the PO, (iii) identify as Intertek's property and segregate from other material to assure proper use on end product, and (iv) document the receipt, inspection, test, handling, and disposition of the material.

Intertek or Intertek's Customer assets (i) shall not be used for other than the originally intended purpose, and (ii) shall not be modified, repaired, or disposed of, without the written authorization from Intertek. Seller shall be solely responsible for instituting preventive maintenance, performing calibration (when required), and performing minor repairs on CFM at no increase in price, cost, or fee to Intertek. Intertek's authorization is required prior to Seller performing any repairs.

**QAC-038 Controlled Manufacturing Process**

- A manufacturing process map (flowchart) must be provided to Intertek, for review and approval, at least thirty (30) days prior to start of initial production.
- The process map shall contain sequential procurement, fabrication, processing, sub-contracting, inspection and test steps.
- The submitted process map may require iteration, to capture additional definition of critical process variables.
- Upon approval of supplier's process map, the supplier shall control all manufacturing, processing, testing and inspections as stated in the documented plan.
- Changes to the approved manufacturing process map and/or defined variables, must be immediately communicated to Intertek.
- Submitted changes to the manufacturing process map may require additional auditing, qualification and/or submittal of a delta F.A.I. to address the critical characteristics affected.
- Supplier process is subject to audit by Intertek Quality Assurance

QAC-039 Zero Based Sampling Plan

Seller's sampling plans employed shall be in accordance with established military or industry consensus standards. Seller should employ zero acceptance number ($c=0$) or often referred to as accept-on-zero (AOZ) sampling techniques. The use of statistically valid sampling plans does not relieve Seller of Seller's sole obligation to provide 100% defect-free items at no increase in price, cost, or fee to Intertek. Quality Records are to be retained by Supplier and available for review by Intertek when required. Retention time shall be 7 years.

Inspection by attributes or variables conforming to ANSI/ASQC Z1.4-1993 or ANSI/ASQC Z1.9- Current Revision is recommended, using a sampling plan of AQL 1.0% Level II or an approved alternate.

QAC-040 Referenced Document Revisions

Unless otherwise specified, all specifications and standards referenced as part of the PO shall be the latest issue in effect at the time of PO placement. In the event a military/industry standard or specification is canceled or superseded, the superseding document should be used. If no superseding document is cited or known, the latest revision prior to cancellation should be used.

QAC-041 Tool Proofing

Dimensional part samples from tooling to be used for production shall be furnished to and approved by the Intertek prior to fabrication of production parts.

For multi-cavity molds or dies, samples shall be provided from each cavity and the cavity shall be identified. Production parts fabricated in advance of Buyer approval shall be at the Seller's risk

QAC-042 Qualification Testing

Qualification testing in accordance with Intertek's drawing or applicable specification(s) shall be required. Seller shall submit a Qualification Test Procedure (QTP) to Intertek for approval prior to the start of qualification testing. Upon completion of qualification testing, Seller shall submit a Qualification Test Report (QTR) for Intertek's written approval. Any work performed or expenditures made by Seller prior to Intertek's written approval shall be at the Seller's risk.

**QAC-043 Software Release**

The supplier shall provide a document which contains the following:

- A description of the release or change to the software (release notes)
- Validation checksum or equivalent
- Date of release
- Item identification number (part number)

When software is delivered electronically (i.e. FTP site, etc), the Supplier shall provide email notification to: quality@interteklabsinc.com

QAC-044 Packaging Requirements

Unique Packaging. Unique packaging shall be in effect as cited on the PO. Contact Intertek if further clarification is required.

Moisture/Re-Flow Sensitive Devices. Moisture/Re-Flow Sensitive Devices shall be adequately packaged per ANSI/J-STD-33, or Intertek acceptable equivalent. These devices shall be dry and sealed in moisture barrier bags/containers with desiccant, a humidity indicator card and appropriate caution label applied to the exterior of the moisture barrier bag or container.

Hazardous Material/Explosives. Hazardous Material/Explosives on this PO shall be properly packaged and labeled per appropriate U.S. Federal regulation(s). The Seller is solely responsible to ensure that all U.S. Federal regulations are met.

Tape and Reeled Components. Surface mount or axial lead components shall be tape and reeled in accordance with ANSI/EIA-481.

QAC-045 Registration, Evaluation, Authorization and Restriction of Chemical (REACH)

Seller shall fully understand and comply with the European Community (EC) regulation (EC 1907/2006 and successor amendments/modifications) Registration, Evaluation, Authorization and Restriction of Chemical (REACH) for the product/service being provided by the Seller to the Intertek. Upon Intertek's request, the Seller must provide to Intertek's satisfactory supporting evidence, as solely determined by Intertek, demonstrating Seller's compliance with their obligations with regards to REACH.

QAC-046 Restriction of Hazardous Substances Directive (RoHS)

Seller shall fully understand and comply with the European Directive (2002/95/EC and successor amendments/modifications) on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS) for the product/service being provided by the Seller to the Intertek.

QAC-047 Prohibition of Hexavalent Chromium

Seller shall fully understand and comply with Defense Federal Acquisition Regulation (DFAR) 252.223-7008 regarding the prohibition of hexavalent chromium for the product/service being provided by the Seller to the Intertek.

**QAC-048 Cable and Harness Assemblies**

Unless otherwise specified by the P.O. or Intertek released specifications, IPC/WHMA-A-620, Class 2 applies.

QAC-049 Circuit Card Assemblies

Unless otherwise specified by the P.O. or Intertek released specifications:

- Soldering shall be in accordance with the requirements of J-STD-001 Class 2.
- [IPC-A-610 Class 2](#) shall be the inspection criteria.
- Evidence of manufacturing and inspection shall be delivered with each assembly/lot.

QAC-050 PRINTED WIRING (CIRCUIT) BOARDS

Unless otherwise specified by the P.O. or Intertek released specifications:

Printed circuit board assemblies shall conform to the requirements of IPC-2221 and IPC-2222, Class 2, Level C. Acceptance of assemblies shall be per IPC-A-610, Class 2.

Printed circuit boards shall conform to the requirements of IPC-2221 and IPC-2222, Class 2, Level C and shall be manufactured in compliance to IPC-6011 and IPC-6012, Class 2. Acceptance of boards shall be per IPC-A-600, Class 2.

**QAC-051 Solder/Solderability of Parts**

- A. Electronic and Circuit Card Assemblies. Unless otherwise authorized in writing by Intertek, the following shall apply. Electronic and electronic circuit card assemblies (CCA) shall be soldered to the requirements of IPC J-STD-001, Class 2, or Intertek acceptable equivalent as applicable to this PO. The Seller shall implement and maintain a system that includes adequate process controls to assure conformance to the soldering, cleanliness, acceptance, material handling, storage, and shipping requirements. CCA's containing hidden solder joints (e.g., Ball Grid Arrays (BGA's)) shall be 100% X-Ray inspected. The tin content of any constituent element (e.g., plating or finish), part, assembly, solder, etc., regardless whether internally or externally, shall not exceed 97 percent tin and shall be alloyed with a minimum of 3 percent lead, by mass. The item shall meet the cleanliness requirements of IPC J-STD-001. Rework, if required, shall be per IPC-7711/7721 Class 3.
- B. Component & PCB Solderability. The Seller (manufacturer or distributor) shall ensure that all parts: leads, lugs, terminal, wires and terminations cited on this PO shall meet the component solder requirements of IPC J-STD-001, and the solderability requirements of IPC J-STD-002 or Intertek acceptable equivalent, and Printed Circuit Boards shall meet the solderability requirements of IPC J-STD-003 or Intertek acceptable equivalent.
- C. Pre-Tinning. Component leads or the like shall be tinned per IPC J-STD-006 and properly cleaned to remove flux residue. Leads shall meet the solderability requirements of IPC J-STD-002, or Intertek acceptable equivalent.
- D. Solderability Test Samples. To assure the solderability of plated parts are acceptable, Seller shall furnish with each shipment a minimum of two samples from the same lot, which have been subjected to the solderability test of J-STD-003 or Intertek acceptable equivalent.
- E. Fluxes, Solder and Solder Paste. Fluxes, solder alloys, and solder pastes shall meet the following IPC J-STD requirements: J-STD-004 for Fluxes, J-STD-005 for Solder Pastes, and J-STD-006 for Solder Alloys, or Intertek acceptable equivalent.
- F. Under Plating & Solder Coating Test Coupons. Test coupons shall be furnished by the Seller for under plating (qty. 2) and solder coating (qty. 2) with each lot supplied as specified on the drawing(s) and /or specification(s) cited on the PO.